**Databases: Normalisation:**

**1NF**

Repair this:

|  |  |  |
| --- | --- | --- |
| **Customer ID** | **Name** | **Phone** |
| 111 | Fred Smith | 4566 3456 |
| 222 | Mary Jones | 4567 8900 |
| 333 | Tim Blogs | 3254 5676 |

|  |  |  |  |
| --- | --- | --- | --- |
| Customer ID | First name | Second Name | Phone |
| 111 | Fred | Smith | 4566 3456 |
| 222 | Mary | Jones | 4567 8900 |
| 333 | Tim | Blogs | 3254 5676 |

Repair this:

|  |  |  |
| --- | --- | --- |
| **Product ID** | **Colour** | **Weight** |
| A345 | Red | 4kg |
| A568 | Blue | 300g |
| B695 | White | 1.5kg |

|  |  |  |
| --- | --- | --- |
| Product ID1 | Colour | Weight (kg) |
| A345 | Red | 4.0 |
| A568 | Blue | 0.3 |
| B695 | White | 1.5 |

Repair this:

|  |  |  |
| --- | --- | --- |
| **Album** | **Track** | **Length** |
| Monster | 1 | 3:23 |
| Monster | 2 | 4:12 |
| Collapse into Now | 1 | 4:01 |

1. What is the problem above?

The length doesn’t have a meaningful form and unit.

This table doesn’t have a primary key.

Repair this:

|  |  |
| --- | --- |
| **Customer ID** | **Address** |
| 111 | 66 Lake Rd, Mentone, 3198 |
| 222 | 2/45 Richmond Lane, Richmond, 3121 |
| 333 | 135 Spring St, Melbourne, 3000 |

|  |  |  |  |
| --- | --- | --- | --- |
| Customer ID | Street | Town | Postcode |
| 111 | 66 Lake Rd | Mentone | 3198 |
| 222 | 2/45 Richmond Lane | Richmond | 3121 |
| 333 | 135 Spring St | Melbourne | 3000 |

Repair this:

|  |  |  |
| --- | --- | --- |
| **CUSTOMER** | | |
| **Customer ID** | **Name** | **Phone** |
| 111 | Fred Smith | 4566 3456 |
| 222 | Mary Jones | 4567 8900 (BH)  3456 2314 (AH) |
| 333 | Tim Blogs | 3254 5676  0402 697 495 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Customer ID | First Name | Second Name | Contact Number 1 (BH) | Contact Number 2 (AH) |
| 111 | Fred | Smith | 4566 3456 | None |
| 222 | Mary | Jones | 4567 8900 | 3456 2314 |
| 333 | Tim | Blogs | 3254 5676 | 0402 697 495 |

/

**2NF, removing subsets of data that apply to multiple rows of a table and place in separate table.**

|  |  |  |  |
| --- | --- | --- | --- |
| **CustomerID** | **Gname** | **Sname** | **Phone** |
| 111 | Fred | Smith | 1293 5934 |
| 222 | Mary | Jones | 4839 2712 |
| 222 | Mary | Jones | 2849 5967 |
| 333 | Ike | Turner | 2393 4955 |

Table1

|  |  |  |
| --- | --- | --- |
| Customer ID | G name | S name |
| 111 | Fred | Smith |
| 222 | Mary | Jones |
| 333 | Ike | Turner |

Table2

|  |  |  |
| --- | --- | --- |
| Customer ID | Phone1 | Phone2 |
| 111 | 1293 5934 | None |
| 222 | 4839 2712 | 2849 5967 |
| 333 | 2393 4955 | None |